

Amdt. filed November 21, 2007
Responding to office action mailed August 22, 2007
App. Ser. No. 10/735,726

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Fig. 3. The sheet labeled “Replacement Sheet” replaces the original drawing of Fig. 3. The marked-up sheet showing the changes made to Fig. 3 is labeled “Annotated Sheet” with the corrections in red.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

REMARKS/ARGUMENTS

I. Status of Claims

Prior to this Amendment, claims 1-47 are pending of which claims 1, 7, 13, 17, 22 and 26 are independent. By this Amendment, claims 7-8, 10-20, 22-24, 29, 31, and 33-34 have been amended, and claims 1-6, 9, 26-28, 30 and 35-47 have been canceled without prejudice and disclaimer of the subject matter recited therein.

II. Drawings

Applicant hereby submits modified drawing of Fig. 3 to better clarify the subject matter illustrated therein. No new matter is added. The Examiner is kindly requested to confirm the acceptance of the submitted new drawing of Fig. 3.

III. Rejections under 35 U.S.C. §102(e)

Claims 1-9, 11, 13-15, 17-20, 22-24, 26 and 27 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,191,461 to Arsenault et al. (hereinafter Arsenault).

Claims 1-6, 9 and 26 have been canceled. Applicant respectfully traverses the rejection of remaining claims of 7, 8, 11, 13-15, 17-20, 22-24 and 27.

Before discussing the differences between the cited reference and the present application, it is believed to be beneficial to first give a brief overview of Applicant's disclosure. A digital broadcasting system employs a single control channel and a plurality of broadcast channels. Not to be confused with broadcast channels, which are channels used to transmit broadcast programs, the control channel is used to transmit control data for the analysis of received signals, the synchronous detection of spreading signals, the control of receiver etc. In the meantime, in order to provide a user with a secondary broadcast regarding information such as weather, traffic and etc, the conventional digital broadcasting system must incorporate a secondary broadcast to be transmitted into a broadcast channel selected by the user.

Accordingly, in order to provide the secondary broadcast to all users regardless of what channel they are watching, it is required to insert the same secondary broadcast into all broadcast channels, which makes it difficult to perform efficient channel management. In addition, the conventional digital broadcasting system provides the secondary broadcast to all users indiscriminately. Accordingly, the conventional system cannot meet demands of users who desire to receive a specific kind of secondary broadcast, or users who do not desire to receive the secondary broadcast.

The system and method disclosed in the present application is designed to solve the problems of conventional digital broadcasting systems. Specifically, the disclosed system and method uses the control channel as the means to carry summary information of a secondary broadcast while sending the substantive content of the secondary broadcast through one of the broadcast channels. After the receiver that a user uses to watch broadcasts extracts from the control channel the summary information of the secondary broadcast, which may contain information such as the channel number used for broadcasting the secondary broadcast, the receiver allows the user to view the secondary broadcast by switching to the channel number carrying the secondary broadcast only if the user chooses to view the secondary broadcast. As such, unlike what conventional systems usually require, the secondary broadcast is not required to be inserted into all broadcast channels, and a user can view the secondary broadcast only if the user chooses to do so.

A. Claim 7

Claim 7 recites a digital broadcasting system employing a control channel and a plurality of broadcast channels, wherein the control channel is provided for transmitting therethrough a synchronous signal section and a data transmission section alternately, the system comprising:

a transmitter for dividing the data transmission section into a control data section and a secondary broadcast section, for

multiplexing summary information of a secondary broadcast, control data of the broadcast channels and a predetermined synchronous signal by allocating each to the secondary broadcast section, the control data section and the synchronous signal section, respectively, and for transmitting the multiplexed summary information of the secondary broadcast, control data of the broadcast channels and a predetermined synchronous signal through the control channel; and

a receiver for receiving a signal transmitted through the control channel, determining whether the summary information of the secondary broadcast is present in the secondary broadcast section, and providing the summary information of the secondary broadcast to a user after extracting the information from the secondary broadcast section.

(emphasis added).

Arsenault relates to providing a second program guide information describing a second set of the programs, which are broadcasted by broadcast channels mapped to a second set of viewer channels, to legacy and non-legacy receiver stations. It appears the Examiner regarded the secondary program guide information as the “summary information” of the secondary broadcast recited in claim 1. However, in Arsenault’s scheme, the second program guide information is transmitted not through the control channel, but rather through a second service channel, which, as discussed below in greater detail, is not the control channel.

To be more specific, it appears that a service channel, as disclosed in Arsenault, is one of plurality of broadcast channels identified by a service channel identifier (SCID). See col. 10, lines 11-15, col. 10, lines 48-56 and col. 25, lines 12-23. Hence, a service channel, as disclosed in Arsenault, appears to be a broadcast channel, which is expressly distinguished in the present application from a control channel, which is expressly defined as a channel “used to transmit control data for the analysis of received signals, the synchronous detection of spreading signals, the control of receiver etc.” (emphasis added). See unnumbered page 1, lines 22-24 of the present application. Accordingly, a service channel, as disclosed in Arsenault, is not the same as the control channel defined in the present application.

Turning to how the second program information is transmitted, Arsenault discloses that “[A]t least a portion of second program information (...) is mapped to a **second service channel** of the first broadcast signal.” (see col. 16, lines 46-50) and step 1212 of Fig. 12B, which states that “a receiver receive the second program guide information on [a]**second service channel**”. Though termed differently, a person of ordinary skill in the art should readily recognize that the “**second service channel**”, as used in Arsenault, is an individual broadcast channel, rather than a control channel for transmitting control data for the analysis of received signals, the synchronous detection of spreading signals, the control of receiver, and etc.

Hence, the second program information is not disclosed in Arsenault as being transmitted through the control channel. In fact, nowhere in Arsenault, including the text excerpts that the Examiner cited, such as col. 12, lines 56-65 and col.17, lines 41-60, is there a disclosure, teaching or suggestion of using a control channel to provide any information similar to the “summary information of a second broadcast” as recited in claim 1.

Consequently, because Arsenault only discloses transmitting the second program information through a service channel, which is not a control channel, Arsenault does not disclose, teach, or suggest transmitting summary information of a secondary broadcast through the control channel. Hence, Arsenault also does not disclose, teach, or suggest a transmitter for transmitting the multiplexed summary information of the secondary broadcast, control data of the broadcast channels and a predetermined synchronous signal through the control channel, as claimed.

In addition, nowhere does Arsenault disclose, teach, or suggest the functional aspect of the transmitter with respect to dividing the data transmission section into a control data section and a secondary broadcast section, for multiplexing summary information of a secondary broadcast, control data of the broadcast channels and a

predetermined synchronous signal by allocating each to the secondary broadcast section, the control data section and the synchronous signal section, as claimed.

Further, nowhere does Arsenault disclose, teach, or suggest the functional aspect of the receiver with respect to receiving a signal transmitted through the control channel, determining whether the summary information of secondary broadcast is present in the secondary broadcast section, and providing the summary information of the broadcast to a user after extracting the information from the secondary broadcast section, as claimed.

Accordingly, Arsenault does not anticipate claim 7 under 35 U.S.C. 102. The rejection of claim 7 should therefore be withdrawn.

B. Claim 13

Claim 13 recites a secondary broadcast determination means for determining whether summary information of a secondary broadcast is present in the data transmission section of the control channel at a predetermined position thereof and a secondary broadcast extractor for extracting the summary information transmitted while being inserted in the data transmission section at the predetermined position thereof.

Because Arsenault does not disclose, teach or suggest transmitting summary information of a secondary broadcast through the control channel, Arsenault also does not disclose, teach or suggest determining whether summary information of a secondary broadcast is present in the data transmission section of the control channel at a predetermined position thereof.

In addition, because Arsenault does not disclose, teach or suggest transmitting summary information of a secondary broadcast through the control channel, Arsenault also does not disclose, teach or suggest extracting the summary information

transmitted while being inserted in the data transmission section, which is part of the control channel, at the predetermined position thereof.

Accordingly, Arsenault does not disclose, teach, or suggest any of the secondary broadcast determination means and the secondary broadcast extractor recited in claim 13. Accordingly, Arsenault does not anticipate claim 13 under 35 U.S.C. 102. The rejection of claim 13 should therefore be withdrawn.

C. Claim 17

Claim 17 recites searching a secondary broadcast section in the data transmission section of the control channel to determine whether there is summary information of the secondary broadcast and extracting the summary information from the secondary broadcast section.

Because Arsenault does not disclose, teach or suggest transmitting summary information of a secondary broadcast through the control channel, Arsenault also does not disclose, teach or suggest searching a secondary broadcast section in the data transmission section of the control channel to determine whether there is summary information of the secondary broadcast, as recited in claim 17.

In addition, because Arsenault does not disclose, teach or suggest transmitting summary information of a secondary broadcast through the control channel, Arsenault also does not disclose, teach or suggest extracting the summary information from the secondary broadcast section (which is part of the control channel), as recited in claim 17

Accordingly, Arsenault does not anticipate claim 17 under 35 U.S.C. 102. The rejection of claim 17 should therefore be withdrawn.

D. Claim 22

Claim 22 recites multiplexing the data transmission section and the synchronous signal section while arranging the data transmission section and the synchronous signal section alternately, and transmitting the multiplexed data transmission section and the synchronous signal section through the control channel.

Because Arsenault does not disclose, teach or suggest transmitting summary information of a secondary broadcast through the control channel, Arsenault also does not disclose, teach or suggest multiplexing the data transmission section and the synchronous signal section while arranging the data transmission section and the synchronous signal section alternately, and transmitting the multiplexed data transmission section and the synchronous signal section through the control channel, as recited in claim 22, given that according to claim 22, the multiplexed data transmission section contains the summary information of the secondary broadcast.

Accordingly, Arsenault does not anticipate claim 22 under 35 U.S.C. 102. The rejection of claim 22 should therefore be withdrawn.

E. Claims 8, 11, 14-15,18-20, 23-24 and 27

The rejection of dependent claims 8, 11, 14-15, 18-20, 23-24 and 27 should also be withdrawn by virtue of their dependence from allowable claims 7, 13, 17 and 22.

IV. Rejections under 35 U.S.C. §103 (a)

Claims 29-31, 35-39 and 40-42 are rejected under 35 U.S.C. §103 (a) as being unpatentable over Arsenault in view of U.S. Patent No. 7,024,767 to Klopfenstein.

Claims 10, 21, 25, 28, 24, and 47 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Arsenault in view of U.S. Patent No. 5,557,338 to Maze et al. (hereinafter Maze).

Claims 12, 16, 32, 33, 43-46 are rejected under 35 U.S.C. §103 (a) as being unpatentable over Arsenault and alleged well-known prior art knowledge.

Claims 28, 30 and 35-47 have been canceled. Accordingly, the rejection concerning these claims is now moot.

The remaining claims of 10, 12, 16, 21, 24, 25, 29, 31, 32, and 33 all depend from independent claims 1, 7, 13, 17 and 22, and thus inherit all limitations of the independent claims. The secondary references, namely, Klopfenstein, Maze, and the alleged well-known prior art knowledge, are merely cited for secondary features. None of them cure the deficiency of Arsenault with respect to transmitting summary information of a secondary broadcast through the control channel.

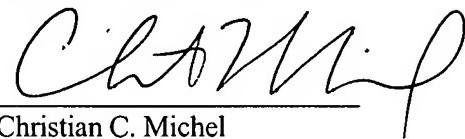
Accordingly, Applicant needs not further discuss those secondary references in relation to the patentability of claims 10, 12, 16, 21, 24, 25, 29, 31, 32, and 33, and these claims should be allowable over Arsenault and the respective secondary reference cited against them. Accordingly, their rejection should also be withdrawn.

V. Conclusion

In view of the above, it is believed that this application is in condition for allowance and notice to this effect is respectfully requested. Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Should any/additional fees be required, the Director is hereby authorized to charge the fees to Deposit Account No. 18-2220.

Respectfully Submitted,



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4/5

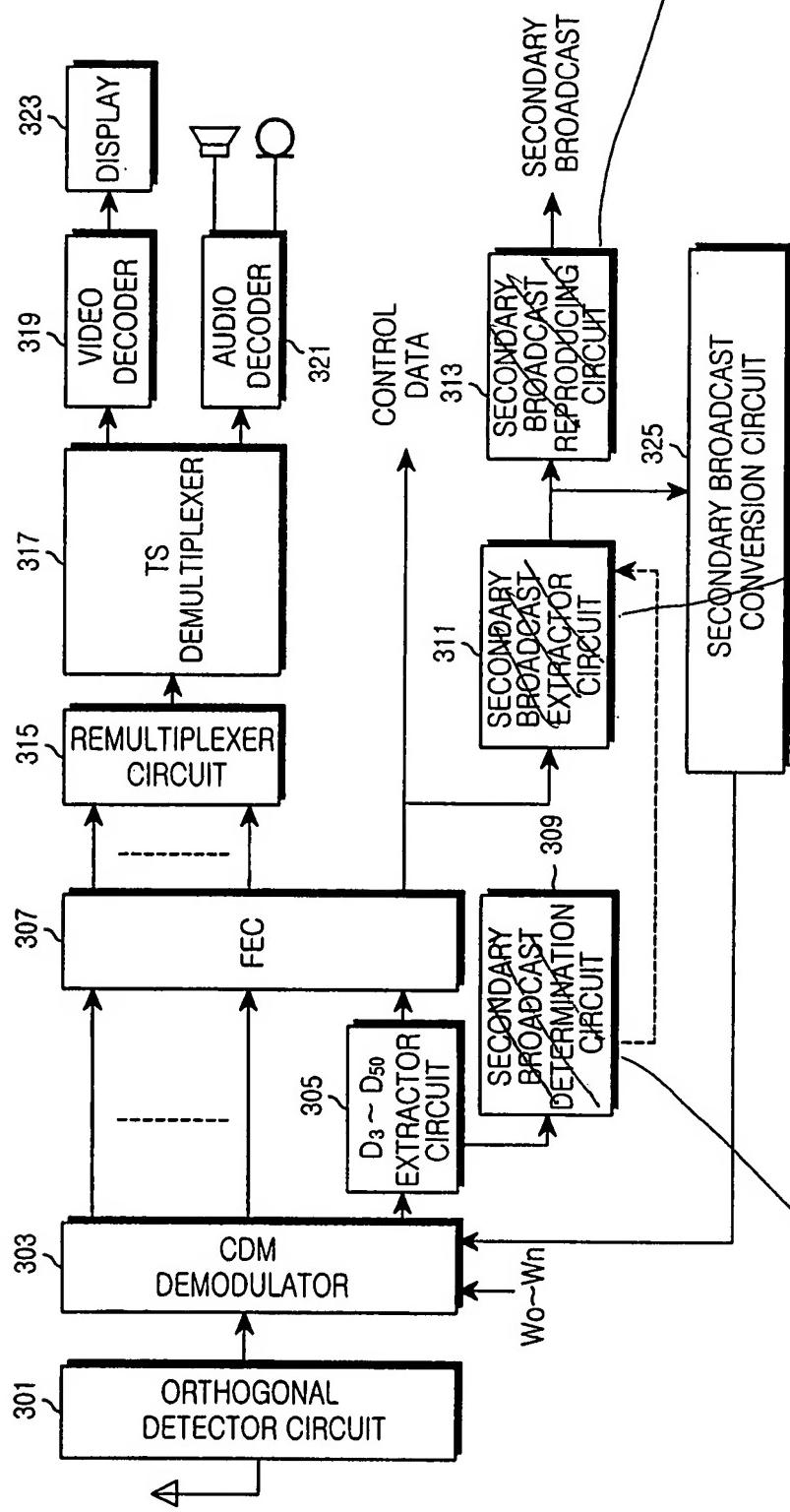


FIG. 3
"text replaced by "SUMMARY INFORMATION OF SECONDARY BROADCAST TERMINATION CIRCUIT"

"text replaced by "SUMMARY INFORMATION OF SECONDARY REPRODUCING CIRCUIT"

"text replaced by "SUMMARY INFORMATION OF SECONDARY EXTRACTOR CIRCUIT"

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